AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A system for allocating frequency allocations (FAs) to each of N sectors in a base transceiver station (BTS) for use in a mobile communication system, N being a positive integer, the system comprising:

a determiner that determines d# and f#, each representing a number of dynamic FAs and a number of fixed FAs, respectively, for each sector based on one of call requests or subscriber information;

an array of sector amplifiers; and

a switch that switchably connects the dynamic FAs to the sector amplifiers.

2. (Previously presented) The system of claim 1, further comprising an array of combiners that combine the dynamic FAs and the fixed FAs and that output d# output signals.

3. (Original) The system of claim 2, wherein each of the sector amplifiers amplifies a corresponding output signal.

4. (Previously presented) The system of claim 3, wherein each of the sector amplifiers includes:

a switchable divider that switchably divides the corresponding signal;

a plurality of multi-carrier power amplifiers (MCPAs) that amplify the divided signal; and

a switchable combiner that switchably combines the amplified signal.

5. (Previously presented) The system of claim 4, wherein the sector amplifier further includes:

a first switch that selectively connects the corresponding signal to the MCPAs in the array of sector amplifiers; and

a second switch that selectively connects the amplified signal to the switchable combiners in the array of sector amplifiers.

6. (Previously presented) The system of claim 5, further comprising an array of isolation resistors that prevent interference between signals input into the sector amplifiers.

7. (Previously presented) The system of claim 6, further comprising an array of phase shifters that match the signals in phase.

8. (Previously presented) The system of claim 4, wherein when j FAs are allocated to a selected sector amplifier, the corresponding switchable divider and combiners operate in j-way, j being a positive integer.

9. (Previously presented) The system of claim 8, wherein when the j number of FAs are allocated to the selected sector amplifier, each FA has the same power level at an output port of the selected sector amplifier.

10. (Previously presented) A base station (BS) for allocating frequency allocations (FAs) to each of N sectors incorporated therein, wherein N is a positive integer, the base station (BS) comprising:

a controller that groups N sectors into M groups and determines d and f for each group, M being positive integer, d and f representing the number of dynamic FAs and the number of fixed FAs, respectively;

d number of combiners that combine the fixed FAs and the dynamic FAs for each said group and that output d number of signals;

d number of switchable power divider/combiners; and

d number of first switches that selectively switch the output signals to the switchable power divider/combiners, whereby the switchable power divider/combiners amplify signals input thereto at the same power level.

11. (Previously presented) The base station of claim 10, wherein the controller calculates N, M, d and f by using call request information corresponding to each sector.

12. (Original) The base station of claim 11, wherein the call request information is retrieved from a mobile switching center.

13. (Previously presented) The base station of claim 12, wherein the controller calculates N, M, d and f by using a number of subscribers located in each sector of a target base station.

14. (Previously presented) The base station of claim 13, wherein information regarding the number of subscriber's is retrieved from a mobile switching center.

15. (Previously presented) The base station of claim 10, wherein the controller is located at the BS.

16. (Original) The base station of claim 10, wherein the controller is located at a call control processor (CCP).

17. (Original) The base station of claim 10, wherein the fixed FAs are allocated to all of the combiners.

18. (Previously presented) The base station of claim 10, wherein said switchable power divider/combiners include:

d number of switchable power dividers, each dividing an input signal into a number of divided signals, wherein each of the switchable power dividers is configured to control a number of divided signals;

a number of multi-carrier power amplifiers (MCPAs) that amplify the divided signals; and

d number of switchable power combiners, each combining a plurality of input signals into an output signal, wherein each of the switchable power combiners is configured to control the number of input signals.

19. (Previously presented) The base station of claim 18, wherein when j FAs are allocated to a predetermined sector, the corresponding switchable power dividers and combiners operates in j-way, j being a positive integer.

20. (Original) The base station of claim 18, wherein the number of MCPAs is the number of total FAs which is the sum of d and f.

21. (Previously presented) The base station of claim 18, the switchable power divider/combiners further include:

d number of second switches that selectively switch the divided signals from the switchable power dividers to the MCPAs; and

d number of third switches that selectively switch signals amplified by the MCPAs to the switchable power combiners.

22. (Previously presented) The base station of claim 18, wherein each of the switchable power dividers includes:

an input port that receives an input signal;

a common node;

k number of first transmission lines, k being a positive integer;

k number of second transmission lines;

k number of isolation elements disposed between the first and the second transmission lines, wherein each isolation element is electrically connected to corresponding first and second transmission lines, respectively;

k number of output ports that output k number of output signals, each of the output ports is connected between a corresponding isolation element and one of a first and a second transmission line;

k number of fourth switches that selectively switch the input signal to the first transmission line; and

k number of fifth switches that selectively switch the common node to the second transmission line based on the first switches.

23. (Currently Amended) The base station of claim 22, wherein k is equal to (f/d)+d.

24. (Previously presented) The base station of claim 23, wherein each of the combiners includes:

an output port that outputs an output signal;

a common node;

k number of first transmission lines;

k number of second transmission lines;

k number of isolation elements disposed between the first and the second transmission lines, wherein each isolation element is electrically connected to corresponding first and second transmission lines, respectively;

k number of input ports that receive k number of input signals, each of the input ports is connected between a corresponding isolation element and one of a first and a second transmission line;

k number of sixth switches that selectively switch the input signal to the first transmission line; and

k number of seventh switches that selectively switch the common node to the second transmission line based on the first switches.

25. (Previously presented) The base station of claim 24, wherein a power level of each FA becomes the same value at each output port of the switchable combiners.

26. (Previously presented) The base station of claim 21, wherein each of the first and the third switches has d number of output ports.

27. (Previously presented) The base station of claim 21, wherein each of the second switches has d number of input ports.

28. (Previously presented) The base station of claim 18, further comprising:

d number of antennas electrically connected to said MCPAs, wherein each of the antenna converts the amplified signals into radio frequency (RF) signals to be sent into each sector in the group, respectively.

29. (Previously presented) The base station of claim 23, further comprising: k number of isolation resistors that prevent interference between signals input to each combiner.

30. (Previously presented) The base station of claim 25, further comprising:

k number of phase shifters in front of each combiner that control phases of signals input thereto.

31. (Previously presented) The base station of claim 10, wherein N is equal to 6 so as to implement a BS for use in an IMT 2000 communication system.

32. (Currently Amended) A method for allocating frequency allocation (FAs) to N sectors of a service area in a base transceiver station (BTS) for use in a wireless communication system, N being a positive integer, the method comprising:

grouping said N sectors into a plurality of groups based on subscriber's information; and

determining, with a controller, a number of dynamic FAs and a number of fixed FAs for each group based on one of call requests or the subscriber's information.

33. (Previously presented) The method of claim 32, further comprising:

setting a number of switches, a number of switchable power divider/combiners and a number of ports based on the number of dynamic FAs and the number of fixed FAs.

34. (Previously presented) The method of claim 33, further comprising:

amplifying the dynamic FAs and the fixed FAs by using an array of sector amplifiers; and

switchably connecting the dynamic FAs to the array of sector amplifiers.

35. (Previously presented) The method of claim 34, wherein the amplifying includes:

combining the dynamic FAs and the fixed FAs by using an array of fixed combiners;

switchably dividing the combined FAs by using an array of switchable dividers;

amplifying the combined signals by using a plurality of multi-carrier power amplifiers (MCPAs); and

combining the amplified FAs into s# output signals to be sent to sectors in a corresponding group, respectively, by using an array of switchable combiners, s# representing the number of total FAs per group.

36. (Original) The method of claim 35, wherein the number of fixed combiners is equal to that of the dynamic FAs.

37. (Currently Amended) The method of claim 36, wherein a number of input ports of each fixed combiner is defined as:

$$k = (f\# / d\#) + d\#$$

wherein k, f# and d# represent the number of input ports per fixed combiner, the number of fixed FAs and the number of dynamic FAs, respectively.

38. (Original) The method of claim 37, wherein the number of MCPAs is equal to s#, which is the sum of f# and d#.

39. (Original) The method of claim 38, wherein f# / d# is greater than 1.

40. (Previously presented) The method of claim 37, wherein each of the switchable power dividers and combiners operates in a d#-way in a maximum operating mode.

41. (Original) The method of claim 35, wherein j FAs are allocated to a predetermined sector, the corresponding switchable divider and combiner operate in j-way, j being a positive integer.

42. (Previously presented) The method of claim 32, wherein the subscriber's information is call request information corresponding to each sector.

43. (Original) The method of claim 42, wherein the call request information is retrieved from a mobile switching center.

44. (Original) The method of claim 32, wherein the subscriber's information is the number of subscribers located in each sector of a target base station.

45. (Previously presented) The method of claim 44, wherein information regarding the subscriber's number is retrieved from a mobile switching center.

46. (Previously presented) The method of claim 32, wherein N is equal to 6 so as to implement a BTS for use in an IMT 2000 communication system.

47. (New) A system for allocating frequency allocations (FAs) to each of N sectors in a base transceiver station (BTS) for use in a mobile communication system, N being a positive integer, the system comprising:

a determiner that determines d# and f#, each representing a number of dynamic FAs and a number of fixed FAs, respectively;

an array of sector amplifiers;

a switch that switchably connects the dynamic FAs to the sector amplifiers;

an array of combiners that combine the dynamic FAs and the fixed FAs and that output d# output signals; and

wherein each of the sector amplifiers amplifies a corresponding output signal, each of the sector amplifiers including a switchable divider that switchably divides the corresponding signal;

a plurality of multi-carrier power amplifiers (MCPAs) that amplify the divided signal; and

a switchable combiner that switchably combines the amplified signal.

48.(New) A method for allocating frequency allocation (FAs) to N sectors of a service area in a base transceiver station (BTS) for use in a wireless communication system, N being a positive integer, the method comprising:

grouping said N sectors into a plurality of groups based on subscriber's information;

determining a number of dynamic FAs and a number of fixed FAs for each group based on the subscriber's information;

setting a number of switches, a number of switchable power divider/combiners and a number of ports based on the number of dynamic FAs and the number of fixed FAs;

amplifying the dynamic FAs and the fixed FAs by using an array of sector amplifiers; and

switchably connecting the dynamic FAs to the array of sector amplifiers;

wherein the amplifying includes;

combining the dynamic FAs and the fixed FAs by using an array of fixed combiners;

switchably dividing the combined FAs by using an array of switchable dividers;

amplifying the combined signals by using a plurality of multi-carrier power amplifiers (MCPAs); and

combining the amplified FAs into s# output signals to be sent to sectors in a corresponding group, respectively, by using an array of switchable combiners, s# representing the number of total FAs per group.